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RECREATION SAFETY IN MUNICIPAL PARKS - BLOOMINGTON, INDIANA AND TSUKUBA, JAPAN: A COMPARISON STUDY OF RISK MANAGEMENT

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Abstract: Cultural differences affects the design and use of playground equipment in parks. Comparative research exploring the differences in playground facilities, parental supervision, and use was conducted on-site in Tsukuba City, Ibaraki Perfecture, Japan and Bloomington, Indiana, USA. The study examines park design, play equipment, sports fields, use patterns, and parental supervision of children. The study evaluates the relative user risk to injury in both cultural setting.

A primary concern of park administrator in the United States is the prevalence of law suits resulting from accidents. In the United States, risk managers and playground safety specialists play key roles in park and recreation department policy ,making and facility design. The job of risk mangers is to identify hazards and reduce the risks which are predicted to be the source of injuries and loss. In the past few decades recreation administrators have learned that users of their facilities and participants in their programs will demand compensation if they are injured. Public agencies are particularly susceptible to litigation.

Recreation related litigation and law suits are nearly non-existent in Japan's society. This fact exists with the knowledge that design of facilities and playgrounds in Japan are somewhat dangerous when compared to United States Standards. Japanese park administrators and designers appear not to be overly concerned with possible injury claims and law suits involving hazardous park conditions.

Introduction

A primary concern of U.S. municipal park administrators is law suits resulting from negligence claims. In the United States, risk managers and playground safety specialists are a vital part of many recreation departments. In the last few decades, administrators have learned that park users demand compensation if they are injured. Municipal governments are particularly susceptible to law suits because they fit the category of being financially able to pay the damages.

This study compares the different approaches to risk management between two parallel cities, Tsukuba, Japan and Bloomington, Indiana in regards to park and playground safety and risk management. It also studies the cultural differences of child supervision in the park setting.

General Background:

Tsukuba City is located approximately 60 km (37.3 miles) northeast of Tokyo Japan in the Ibaraki Prefecture. Tsukuba City is divided into two districts: (1) The Research and Education District where research and educational institutes, commercial facilities and some limited housing are located, and (2) the surrounding suburban area. The area encompassing Tsukuba City and the suburban districts consist of approximately 28,560 hectares (110 square miles). The city's present population (1995) of 65,200 and has a projected population of 100,000 in 2020. Parks make up 100 hectares (247.7 U.S. acres) or 3.7% of the total lands with an additional 19 hectares (47 U.S. Acres) or .05% in waterways.

Tsukuba City has a total of 99 parks and green areas. There are two (2) multipurpose parks, twenty (20) neighborhood parks, forty-nine (49) child parks, and 23 green areas. The most extensive park unites are the multipurpose parks of Doho (20 hectares) or 49.5 U.S. acres) and Akatsuka (8.5 hectares or 21 U.S. acres). Doho park especially is worthy of note, with a world-class solar heated indoor swimming pool and a heat efficient gymnasium. All parks are connected to each other through the pedestrian and bicycle ways. Directly north of the Tsukuba suburban area is the extensive Suigo Tsukuba Quasi National Park. On the eastern side of the Ibaraki Prefecture is the second largest freshwater lake in Japan, Lake Kasumigaura.[1]

Bloomington, Indiana is located in Monroe County, approximately 50 miles south of Indianapolis, Indiana. The city's boundary encompasses approximately 25 square miles. The city has a population of 65,000 with an additional 36,000 students enrolled at Indiana University. The Bloomington Parks and Recreation Department has 32 units and is responsible for managing more than 1750 acres of lakes, 1400 acres of natural forested acres and preserves, 600 acres of intensive use park and recreation sites, and nine buildings encompassing a total of 3750 acres.[2] The 192,000 acre Hoosier National Forest lies directly south of the city. The largest inland lake in Indiana, Lake Monroe, is located five miles south of the city.

Bloomington has a rich variety of recreation facilities, including Banneker Community Center, Bryan Park, Cascades Golf Course, Frank Southern Ice Arena, Griffy Lake Nature Center, Older American Center, and Twin Lakes Sports Park.

It should be noted that there are many parallel factors in comparing Bloomington Indiana to Tsukuba Japan. They both have similar populations with a considerable number of non-nationals and university students. Both have major universities and research facilities. Both cities have large areas of adjacent federal lands and a large fresh water lake nearby (Hoosier National Forest and Lake Monroe near Bloomington and Suigo Tsukuba Quasi National Park and Lake Kasumigaura near Tsukuba City).

Conclusions

There has been no litigation or claim resulting from accidents or property loss in the Tsukuba municipal parks during the last 20 years[3] During the same period their has been 50

negligence claims resulting of alleged negligence in city parks resulting in six court cases.[4] The lack of recreation related litigation in Japan may result from a combination of cultural and historical precedent, lack of understanding of Japanese laws regarding negligence, and lack of access to legal counsel, and the general attitude of the court system that lawsuits resulting from recreation activities are frivolous.[5]

Constant parental participation and supervision of children at play appears to be the rule in Tsukuba parks while direct supervision of children less than six years of age in Bloomington was normal, many children between the ages of 6-12 appeared unsupervised. Mothers and fathers take an equal role during the evening and weekend park visits supervising the children and looking after their safety. Little differences between parental gender roles could be observed between Bloomington and Tsukuba. It was observed that the children appeared to respond more readily to parental warnings and direction in Tsukuba than in Bloomington.

Park play equipment and facilities in Tsukuba were dangerous as compared to U.S. standards. Little effort was made to soften fall areas around playgrounds in Tsukuba. Some play equipment was inherently dangerous with unstable footing, difficulty in climbing, and excessive height above ground.

Observations Regarding Parental Supervision

Age Groups	0-3	4-6	7-9	10-12	13-15	16-18	Total
U.S. Supervised	142 100%	164 92%	56 40%	8 4%	0 0%	3 2%	373 38%
U.S. Not Supervised	0 0%	15 8%	83 60%	178 96%	167 100%	154 98%	597 62%
Japan Supervised	178 100%	155 100%	138 99%	146 92%	124 83%	45 34%	786 86%
Japan Not Supervised	0 0%	0 0%	2 1%	13 8%	25 17%	89 66%	129 14%

Research conducted in Bloomington Indiana, USA and Tsukuba, Ibaraki, Prefecture, Japan
Research conducted during the month of July in 1997 and 1998
Ages determined partly by visual estimation, and partly by interview with parent(s).

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1. Publication of the Ibaraki Prefecture entitled *Tsukuba Science City* dated April 1995.

2. 1992-1996 Parks and Recreation Master Plan, City of Bloomington, dated August 15, 1992 and updated to status as of August 1996.

3. Toshiichi Tada, Information Coordinator, Ibaraki Prefectural Government, Tsukuba Office, 1-10-1 Azuma, Tsukuba Ibaraki 303 Japan, Interview.

4. Records of the Monroe County Clerk of the Circuit Court, Bloomington Indiana 1976-1996.

5. Toshiichi Tada Interview, supra note 2

THE MEANING OF LEISURE: CONCEPTUAL DIFFERENCES BETWEEN AMERICANS AND KOREANS

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Abstract: Considering the importance of diversifying the concept of leisure and expanding our scope of understanding beyond cultural borders, this study examines the conceptual differences between American and Korean understandings of the term. The results revealed that there is a significant relationship between the concept of leisure and nationality. For Americans, work relation and affect were more highly related to leisure. Perceived freedom was a better indicator for what leisure means to Koreans.

Introduction

Defining leisure as well as measuring it has long been regarded as a challenge to the development in the study of leisure. Although some observers feel that it is practically impossible to define and measure leisure accurately (Mannel & Kleiber, 1997), research has increased researchers' ability to measure and study leisure from various perspectives. However, these diverse concepts about leisure have their origins in ancient western cultures and are predominantly restricted to western industrialized countries, especially, the United States, Western Europe, and Great Britain (Godbey, 1994).

Subsequently, most researchers and scholars have defined leisure within western contexts, and research areas extending beyond the boundaries of the West have been few. This western-oriented definition of leisure, therefore, reflects not only the lack of a global vision, but also limits academic and professional growth (Burnett, Uysal, & Jamrozy, 1991).

Like other areas of scholarly research, the field of leisure studies needs to adopt an international perspective. The failure to globalize leisure research can result in a biased understanding of leisure. A more meaningful understanding of leisure also needs to acknowledge the broad range of cultural differences that potentially inform the concept. Even though the study of leisure has developed mainly in western countries, there is no doubt that all cultures are familiar with the concept, however they may define it. Moreover, there are several semantic and contextual parameters within which the term 'leisure' is defined in different countries or cultures (Chick, 1998). By applying a trans-national perspective to the study of leisure, the generalizability of definitions of leisure can be tested and validated.

Considering the importance of diversifying the concept of leisure and expanding our scope of understanding beyond cultural borders, this study examines the conceptual differences between American and Korean understandings of the term. From the 1970s, Korea has undergone rapid and intensive industrialization that has profoundly influenced the way of life of the Korean people. The rise in labor productivity, the efforts of labor unions, and the development of the economy in general, have given increasing amounts of discretionary time and income to the Korean people. This, in turn, has resulted in the redefinition of the meaning of leisure among Koreans.

Even though same English word "leisure" has begun to be used frequently in daily life and society in Korea, we assume that the concept of leisure among the Korean people would not be the same as that of Americans. A Korean-Korean dictionary defines leisure as "leisure; play; leisure industry" while an English-English dictionary defines leisure as "spare time; time free from work." As the ancient Greeks described leisure as "an essence of culture," the meaning of leisure conceived by people of different nationalities could be assumed to be different (Murphy, Niepoth, Jamieson, & Williams, 1991, p.54).

Based on these assumptions, this study sets out to (1) examine the definition of leisure in terms of work, activity, and subjective experiences, (2) compare the meaning of leisure held by Americans and Koreans. Finally, we hope that this study may serve as a guide for pursuing a cross-cultural understanding of leisure where an ethnocentric bias has been pervasive thus far.

Literature Review

1. Meaning of Leisure

Leisure has been conceptualized and defined from a number of perspectives. These different perspectives reflect historical differences in the organization of societies as well as differences in concepts of and impingement upon both freedom and pleasure. De Grazia (1962; Leitner, Leitner, & Associates, 1995) attempted to break leisure into three distinctive aspects: time, activity, and experience. A similar orientation has continued to be adopted in conceptualizing leisure. Approaches to operationalizing leisure have been objective and subjective (Mannel & Kleiber, 1997). Objective definitions equate leisure with certain types of activity and time. In contrast, a subjective construction of leisure is associated with the occurrence of certain types of mental states, perceptions, needs, and experiences.

In the initial stages of research, leisure was typically viewed as time off work, and "time surplus remaining after the practical necessities of life have been attended to" (Godbey, 1994). Leisure has also been defined as non-work activity participation (Weiskopf, 1982) and "serious activity without the pressure of necessity" (Godbey, 1994).

Later, there was an emerging focus on psychological attributes associated with leisure (Samdahl, 1991), and leisure was construed as a "highly desired state of mind or state of being that is realized through participation in intrinsically motivated activities" (Kraus, 1984). Later, an interest in perceived freedom and the subjective dimensions of leisure have been emphasized as significant attributes of leisure (Samdahl, 1991), with the assumption that "leisure implies being engaged in an activity as a free agent and of one's own choice" (Neulinger, 1981).

More recently, a more holistic view sees leisure and work as being so closely interrelated that the two cannot be easily separated. A study by Shaw (1986) supports the contention that elements of leisure can be found in many different aspects of life. The results indicate that leisure can be experienced in work and other obligatory activities and that not all recreation time or free time may necessarily be considered to be leisure.

The term "leisure," therefore, has come to have many shades of meaning, some of which are almost entirely distinct from others. Further, some aspects of the concept of leisure may not be universally applicable. If we think of the previous definitions of leisure from the standpoint of application, it becomes apparent that research has focused on western society and people in developed countries. According to Burdge and Beckers (1984), leisure researchers are well informed about developments in the United States, but they are extremely internally oriented— the one-way-mirror problem. Therefore, it is important to question whether these objective and subjective definitions of leisure can be applied to the experiences of members of non-western societies, and researchers should bring into play various perspectives and definitions of leisure (Chick, 1998).

2. Measurement of Leisure

Even though the field of leisure research has lacked an empirical method to discover the determinants of definitions of leisure, several studies have attempted to address the conceptualization of leisure and its measurement. Researchers have suggested two measurement approaches using external or internal definitional vantage points (Mannell & Kleiber, 1997). If an internal definitional vantage point is adopted, the meaning of leisure is based on the perception or construal of the participants. By using the individual's own definition of leisure, a more accurate picture of how much leisure people feel they have and what is meaningful to them can be addressed. On the other hand, the external definitional vantage point is based on the viewpoints of researchers. Researchers predetermine or impose a definition of leisure on the people and this measurement is based on what people in a social group actually agree to be leisure.

In the earlier stages of leisure research, Kelly (1972) developed a sociological conceptualization of leisure. According to him, one's definition of leisure is determined by two underlying factors: work-relation and

constraint/freedom. The model suggests that leisure is best represented when persons participate in an activity without constraints (freely) and when the activity is independent of work.

Another theoretical model developed by Neulinger provides a psychological conceptualization of leisure (Iso-Ahola; 1979). A person's definition of leisure was determined by three factors: perceived freedom, motivation (intrinsic or extrinsic), and goal orientation (final or instrumental). The model suggests that leisure exists when a person perceives his freedom as being high and participates in an activity for intrinsic reasons.

The above two models were modified, by Iso-Ahola (1979), to develop the determinants of leisure. His study sought to determine the relative contributions of perceived freedom, motivation, and work-relation. The results revealed that each factor had a significant effect on the subjects' definition of leisure. More importantly, this study disclosed the interaction of freedom and work-relation.

Samdahl (1991) addressed subjective experiences—as a determinant of leisure—using the Experiential Sampling Method (EMS). The causal model of this study indicated that perceived freedom and self-expression have a significant effect on leisure but self-consciousness of leisure did not fully influence the meaning of leisure. Even though the lack of an independent effect of affect on leisure was found, a strong correlation between leisure and affect confirms that these variables are associated with one another.

Shaw's study (1984) also explored meanings of leisure and the subjective factors associated with leisure experiences. Through in-depth interviews and the diary method, determinants of leisure were chosen, including enjoyment, motivation, relaxation, and freedom of choice. These subjective factors were found significantly related to leisure experiences.

In the light of the theory and research on the nature of leisure reported in the past, the most centrally agreed upon set of attributes associated with leisure are: objective determinants (work-relation and activity) and subjective determinants (perceived freedom, self-expression, and affect). These factors were used to address the attributes of the model for this study.

Research Questions

In view of the increasing importance of transnational leisure research and considering the lack of research on the definition and measurement of leisure, this study addresses the following questions:

1. Are there distinct dimensions of the definition of leisure?
2. Is there a significant relationship between nationality and the dimensions of the definition of leisure?
3. Is there a significant relationship between

demography and the dimensions of the definition of leisure?

Method

Selection of Subjects. The individuals who participated in this study were 18 years and older. Questionnaires were given to 226 individuals, 116 were Americans and 110 were Koreans. Data collection was conducted between April 16-19, 1999 at the main campus of Pennsylvania State University, State College, Pennsylvania. If individuals agreed to participate, a two-page questionnaire written in English or Korean was given. These versions of the questionnaire were translated back and forth into English-Korean several times by the researchers (graduate students in the Leisure Studies Department). This approach was adopted to help reduce the use of idiomatic phrases open to multiple interpretations. To acquire a representative sample of the individuals, the variations in days and times (afternoon, evening, and night) were incorporated into the sampling plan.

Instrumentation. A self-administered questionnaire was developed by the researchers and included four sections. In the first section, respondents were asked to provide demographic information (gender, age, and marital status). In the second section, respondents were asked to provide their own definition of the term "leisure" in a word, phrase, or sentence. The third section collected more information regarding the definition. The leisure definition scale was adopted from an earlier study that was reported by Samdahl (1991) and Iso-Ahola (1979). Respondents utilized a seven-point Likert scale to rate their agreement/disagreement with each definitional item: 1=

strongly disagree to 7= strongly agree.

Analysis. Analysis consisted of four steps. First, descriptive statistics were used to profile the sample. Second, the 15 leisure definition statements were factor analyzed, using a varimax rotation procedure, to obtain reliability coefficients for delineated factors. In the third step, two groups of individuals—American individuals (n = 116; 51.3%) and Korean individuals (n = 110; 48.7%)— were formed as independent variables. The two independent variables were examined with respect to delineated leisure definition factor groupings and individual demographic information. A t-test was conducted to examine whether differences existed between the two independent variables (American and Korean). Also, t-test was used for continuous variable to examine the relationship between socio-demographic variables (gender, marital status, age) and four leisure definition dimensions. Finally, t-test was used to examine the relationship of nationality and socio-demographic characteristics to leisure definition. In addition, qualitative methods were employed to analyze the second section of the questionnaire: the open-ended questions.

Results

A total of 226 respondents comprise the sample for the analyses in this study. Socio-demographic data are presented in Table 1. The sample was unbalanced in terms of the gender groups (58.4% males and 41.6% females); about 62.8% of the respondents were single and 37.2% were married. The respondents ranged from 18-60 years in age; 41.4% were aged 18-22 and 58.6% were 23 and older.

Table 1. Socio-demographic Profile of Respondents

Characteristic Category		Number of People	Percentage
Nationality			
	American	116	51.3
	Korean	110	48.7
Sex			
	Males	132	41.4
	Females	94	58.6
Age			
	18 – 22	92	41.4
	23 and older	130	58.6
Marital Status			
	Single	142	62.8
	Married	84	37.2

A principle component analysis of 16 leisure definition items resulted in four factor groupings. Two items with less than .45 loading were removed from the study. The factors were labeled: 1) Activity, 2) Perceived freedom, 3) Affect, 4) Work relation. Labeling factors were based on the appropriateness of the individual items under each factor grouping and judgmental evaluation of the factors consistent with the literature (Samdahl, 1991). Combined, these four factor groupings accounted for almost 60.6 % of the leisure definition variance. Composite scores were obtained on each factor for every subject by calculating the

mean of the relevant item response scores. Crombach's alpha was calculated for each factor to assess the reliability ranging from 0.83 (Affect) to 0.69 (Work relation).

Table 2 provides the results of the t-tests of the four delineated leisure definition factor groupings by the two different nationalities. The study reveals that significant differences exist between Koreans and Americans with respect to three factor groupings: Perceived freedom, Affect, and Work relation. Koreans are more likely than Americans to define leisure from the Perceived freedom

factor with a mean score of 6.46. On the other hand, Americans are more likely to perceive leisure as affect and freedom from work than Koreans.

Table 2. T-test of the Relationship between Nationality and the Definition Dimensions

	Nationality	
	American	Korean
	mean	
Activity	5.49	5.38
Perceived freedom	5.16*	6.17*
Affect	5.63*	5.27*
Work relation	5.54*	4.71*
	df = 1, n=225	

*Significant at the .05 level or higher

According to the result of the T-test of the relationship between gender and dimensions of leisure definitions, no significant relationships were found. Then T-test procedure was employed to determine if a relationship existed between the four leisure definition dimensions and socio-demographic variables (age) (see table 3). It indicated that there was a significant relationship between age and factor 2 (perceived freedom), factor 3 (affect), and factor 4 (Work Relation). On the other hand, there was no significant relation between age and factor 1(Activity). Older people are more likely to say leisure as perceived freedom while younger people are more likely to perceive leisure as affect and work relation than elders.

Table 3. T-test of the Relationship between Definition Dimensions and Age

	Age	
	18 - 22	23 and older
	mean	
Activity	5.54	5.39
Perceived freedom	5.16*	6.02*
Affect	5.66*	5.30*
Work relation	5.50*	4.80*
	df = 1, n=220	

*Significant at the .05 level or higher

According to the results of the t-test, a significant relationship was discovered between marital status and perceived freedom and work relation. Married people were more likely to define leisure as Perceived freedom than single people did. On the other hand, married people were less likely to define leisure as work relation (see Table 4).

Table 4. T-test of the Relationship between marital Status and Definition Dimensions

	Marital Status	
	Single	Married
	mean	
Activity	5.46	5.40
Perceived freedom	5.33*	6.20*
Affect	5.54	5.30
Work relation	5.30*	4.75*
	df = 1, n=225	

*Significant at the .01 level or higher

Discussion and Conclusion

The results revealed that there is a significant relationship between the concept of leisure and nationality. The results also support the existence of a relationship between demographics (age and marital status) and definition of leisure. For Americans, work relation and affect were more highly related to leisure. Perceived freedom was a better indicator for what leisure means to Koreans. Activity was not a strong indicator to explain the different concepts of leisure definition between the two nationalities

Limitation of this study could be the methodology employed. The survey instrument of this study was designed to compare the meaning of leisure between Americans and Koreans based on the definitional attributes of leisure. Since this study is based on a comparative analysis between two nationalities, the survey had to be translated into another language: Korean. Although we went through a trial-and-error correction process regarding the questionnaire translation, there is a possibility that the accurate meaning of questions might have degenerated.

The sample selection bias potentially allowed misrepresentation of the subjects' true characteristics or opinions. Koreans who have been selected for participation in the study were mostly students who have lived in the United States and have been exposed to western culture. If the sample were collected in Korea, it might have been more representative and might have yielded different results. Future research of leisure definitions across nationality is likely to be more beneficial if it includes more specific modification for each dimension and better operationalization.

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UNIVERSAL CAMPSITE DESIGN: AN OPPORTUNITY FOR ADAPTIVE MANAGEMENT

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Abstract: The basic design of campsites has changed little since the 1930s in Yosemite National Park. In heavily used areas, such as Yosemite Valley, this design is leading to environmental impacts from soil compaction, erosion, vegetation damage, and lack of regeneration for many plant species. These sites are also inaccessible to many people with physical disabilities.

In the spring of 1998, four campsite prototypes were installed in an effort mitigate some of these environmental impacts, as well as address accessibility issues for the physically disabled. Special features of these designs included: (1) a flat parking-campsite surface of crushed granite, (2) a clearly defined, permanent boundary for the campsites, (3) new designs for picnic tables, food storage lockers, and campfire rings.

These prototypes were evaluated using a survey questionnaire and systematic daily observations. The results indicate that the new designs are indeed an improvement. The value of evaluating design prototypes as an adaptive management tool is discussed and recommendations are suggested.

Introduction

The increasing popularity and changing nature of outdoor recreation is creating unprecedented management pressures. For instance, the growth in camping has increased from 13 million or 10 percent of the US population over the age of 12 in 1960, to 58.5 million or 29 percent of the population in 1995 (Cordell 1999:235). The pressure from this increase comes in two forms. First is the need to accommodate this increased demand for access, including access by those with disabilities. Second, resource managers, scientists and the public all agree upon the need to maintain healthy ecosystems and protect natural and cultural resources from unnecessary damage caused by overuse. These pressures are being felt throughout the country's outdoor recreation system, but are particularly acute in the nation's 'crown jewels', such as Yosemite National Park.

In response to diverse conflicts over natural resource use and protection, managers, scientists and the public are developing an approach to constructively address these problems called "adaptive management" (Shindler et al. 1999). Rather than implementing sweeping changes before they have been tested, managers are advocating smaller trial runs that can be evaluated before making large commitments that are difficult to change. "Adaptive management is an approach ... that imbeds a simple imperative: policies are experiments; learn from them" (Lee 1993:9). While traditional researchers are accused of never having studied any issues sufficiently to make a decision, the attitude of adaptive managers is quite different. "The adaptive approach favors action, since experience is the key to learning" (Lee 1993:63). Actions implemented at a manageable scale create the opportunities to learn and make better decisions.

The use of "small experiments" is also advocated by Kaplan (1996) as a way to bring useful information to bear on local planning and design decisions. Her approach is very similar to adaptive management: "Small experiments provide ways to try things out. They are unabashedly imperfect. They are 'small' in cost, in number of participants involved, and especially in their intention" (Kaplan 1996:170). She offers succinct advice about four attributes of successful small experiments. First, do not skimp on conceptualization, or "thinking through what one hopes to learn." Second, "while sampling may be an important issue, it may not deserve all the emphasis it has received. A well-conceived study can yield useful results even if it is based on a nonrandom sample." Third, keep track of pertinent information, look for convergent results from different sources (e.g., surveys, observations, interviews), and avoid "the temptation to add questions to a survey 'while one is at it'." Finally, pay attention to effective dissemination and "be mindful of the intended audience." Research of all types can be made ineffectual because it is communicated in the wrong way or to the wrong audience.

This paper summarizes our experience applying some of the principles of "adaptive management" and "small experiments" to the redesign of campsites for Yosemite National Park.

The Situation in Yosemite Valley

Yosemite National Park (YNP) receives over four million visitors a year, making management of the 1200 square mile area a challenge. YNP is also the host to nearly 200,000 overnight campers on an annual basis at 13 campgrounds throughout the park. The high demand for access to recreational camping in YNP requires increased emphasis on campground management in order to meet the mandate for resource protection and visitor enjoyment. The majority of visitation to the park is concentrated in Yosemite Valley (YV). There are currently three drive-in campgrounds in YV: Lower Pines, Upper Pines, and North Pines. They contain 441 campsites and provided overnight camping to approximately 30,460 individuals during the 1998 season. Camp 4 (a walk-in campground) has a

capacity of 210 people a night. The number of campsites was greater before the 1997 flood and the future number of campsites is under consideration as part of the YV Plan. Such large numbers of people concentrated in an area for extended periods of time can lead to undesirable impacts. In the YV campgrounds these include: vegetation damage, soil compaction, erosion, and stream bank failures.

The existing campgrounds in YV were designed in the 1930s and are inadequate for protecting resources while accommodating this number of modern campers. It was thought that universal campsite design might be appropriate for addressing some of these problems (Hultsman et al. 1998; PLAE 1993). Universal campsites were originally designed to provide full site access to people with disabilities. The Americans with Disabilities Act (ADA) of 1990 requires that public places be as accessible to people with disabilities as they are to those without disabilities. Universal campsites also provide clearly defined boundaries that help contain camper activities. This decreases widespread impacts on natural and cultural resources beyond the campsite area. It is also thought that all campers would appreciate that the universal design provides adequate space for a large variety of vehicles and equipment, and flexibility in how individuals arrange their campsite.

A Small Experiment

To replace the existing campsites with a universal design will create a significant disruption for visitors during the construction period and require a major a commitment of resources by YNP. Before embarking on such a large project, it was decided to install four prototype campsites and evaluate them as a "small experiment." These campsites were constructed in a very wet area of the Lower Pines campground during the spring of 1998. Some of the design objectives were to, (1) provide a site surface, furniture, and arrangement accessible to more potential campers, including those with disabilities, (2) provide a well drained and dust-free surface that provides flexibility for individual needs, equipment and activities, (3) minimize resource damage around and between sites, limit the amount of sprawl and trampling outside the site, and allow for the reestablishment of herbaceous vegetation and regeneration of canopy trees, and (4) test a variety of edging materials and campsite furniture to determine the functionality and camper preferences.

The universal campsites were constructed in the late-spring and early summer. The heavy spring runoff from the Merced River caused campsites near the river to be inundated with water. The new universal campsites were used as emergency sites for campers who held reservations at sites that could not be used because of their wet condition. After July 15 the universal sites were placed in the reservation system.

Two methods were employed to gather data about these prototypes, a camper survey and observation of the campsites' condition. Survey questionnaires were distributed between June 12 and October 26, 1998.

Surveys were given to campers by NPS rangers or volunteers when they checked into their site. The prototype sites were occupied by 307 groups during their first season. A total of 90 completed questionnaires were returned to the campground kiosk. It is estimated that approximately 20% of the groups did not receive questionnaires. For instance, some campers arrived late at night and left before a ranger could offer them a questionnaire. The responses represent approximately 35% of the groups believed to have received a questionnaire.

In addition, a ranger monitored the prototype and neighboring campsites. A simple observation worksheet was used to evaluate and record the condition of each site. Most of the observations could be made from the campground road, and an effort was made not to disturb campers. A total of 169 groups of campers were observed between July 15 and October 26, 1998.

Campsite Design

Existing campsites. YV campsites, like the one in figure 1, have asphalt-parking areas (spurs) bounded with concrete half-rounds that have the appearance of half-buried logs. Campers park their vehicles and RVs (recreational vehicles) on the spur. The campsites are in mixed oak-conifer woodland. The understory is sparsely vegetated with dogwood, but younger age classes are notably absent. The majority of the campground surface consists of bare ground, which is often covered with pine needles.
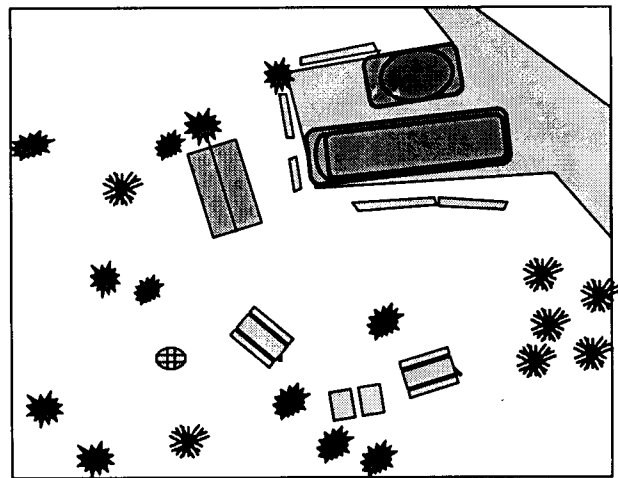
Figure 1. This schematic plan of the existing campsite 11 shows parking on the paved spur is crowded, the camping area has no boundaries, and the site furniture is not ADA accessible.

The provided furnishings stay fairly constant: a 4' x 3' x 2' metal food storage locker, a non-accessible campfire ring (1' x 32" diameter) with a flip grill, and a non-accessible steel frame wooden picnic table (6' x 29" table top) chained in place. "Accessible" refers to usability by persons with disabilities. Campers place their non-vehicular equipment on the bare ground. Examples of the types of equipment

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placed on the dirt include tents, dining flys, chairs, tables, and bicycles.

There are no clearly defined boundaries to the existing campsites. Sometimes the wear on the campsite indicates a tentative boundary. Signs are occasionally posted on the edge of the campsite in an attempt to limit the amount of camper sprawl and resource impact.

Prototype campsites. The general characteristics of the prototype universal campsites are summarized in Table 1. In contrast to the existing campsites, these campsites have an area bounded by an edging material. The area of the campsite is well defined in order to limit the sprawl around the campsite. Three different edging materials were tested: rectangular concrete curbing, granite coping, and peeled log rounds.

The surface of the campsite is 4" of compacted crushed stone (3/8" screen) over an 8" aggregate base (3/4" screen). This material is graded at 2% and provides a well-drained campsite that is not muddy when wet. The surface also reduces dust when dry. This surface provides the desirable level, firm, stable, slip-resistant surface that allows access for people with disabilities. After mid-summer, pine needles were scattered over the crushed stone to provide a look more reminiscent of the forest floor.
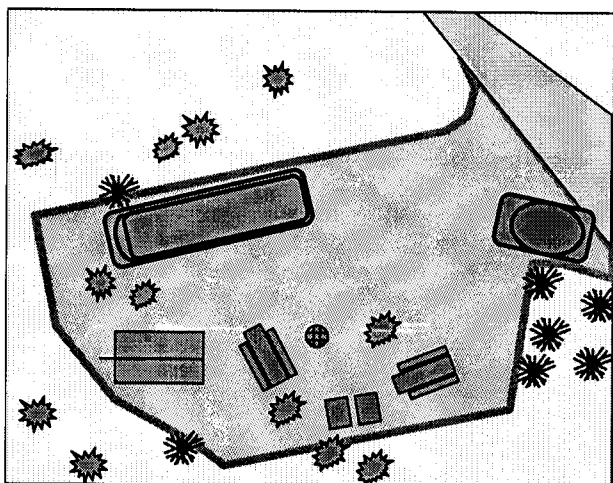
Figure 2. This schematic plan of the universal design for campsite 11 shows that the camping area is a well drained crushed granite surface with clear boundaries, vehicles can park anywhere on this surface, and the site furniture is ADA accessible.

The provided furnishings included food storage lockers, picnic tables, and fire grills. The steel food storage lockers (4' x 3' x 2') were the same those used on the existing campsites. A new larger concrete food storage locker with steel doors was also tested.

Two types of accessible picnic tables were tested. One had a steel frame and a wooden top (8' x 2.5') with a 2.5' overhang at one end to allow wheel chair accessibility. Campers could move this picnic table, allowing greater flexibility in site arrangement. The second picnic table had

brown concrete supports and a to of cast brown wood-textured concrete (8' x 2.7') plastic toped concrete seats. The concrete picnic table has a 2' overhang on both ends to allow wheel chair accessibility. The concrete picnic table was not movable.

Three fire grills were evaluated: An older design with a flip-top grill over a ground-level concrete pad, an accessible metal campfire ring (15" high x 32" diameter) with an adjustable flip grill, and a waist high accessible concrete picnic grill not designed for campfires.

Table 1. Characteristics of prototype campsites.

	Campsite			
	6	8	10	11
Area (sq. ft.)	1488	1870	2376	2120
Max. group size	6	6	12	10
Camp edging:				
Concrete	X	X		
Granite				X
Pealed log			X	
Food locker:				
Metal	1	1	2	2
Concrete	1#			
Picnic table:				
Metal/wood		1	2	2
Concrete/plastic	1			
Camp grill:				
Old flip-up grill		1*	2*	2*
ADA fire ring		1	2	2
ADA picnic grill	1			

Notes: * Old grills were replaced June 28. # A metal locker replaced the concrete one August 17.

The campers were instructed to place all their vehicles, RVs, tents, and other equipment within the defined campsite boundaries. The campsite area defined by the edge tends to be smaller than the average area of the existing adjacent campsites with the same visitor use limits. The entire surface of the universal campsite is crushed aggregate; vehicles, RVs, tents, and other equipment could be placed anywhere on the site.

What We Learned

Who are the campers? The campers came primarily from California (57%), but they also represented other Western states (10%), other parts of the US (13%), and Europe (18%). The average group size for campsite 6 was 3.7 people, for site 8 it was 4.1, for site 10 it was 7.3, and for site 11 it was 6.4 people. They were mostly tent campers (54%), but a significant number brought RVs (22%) or used both tents and RVs (24%). Only 4 of the 90 responding groups reserved one of these prototype sites because it was accessible to persons with a disability. Six groups reported having at least one member with a disability.

What accommodations did they bring? Every group brought some sort of vehicle and some brought more than one, as summarized in Table 2. Almost a third of the groups brought a passenger only vehicle. Almost a quarter

brought a RV intended to accommodate sleeping. A large number also brought a van or camper-truck, but it was uncertain whether they intended to sleep in these vehicles.

Table 2. Type of vehicles brought.

Type of vehicle	Percent
Motor home	17.2
Camper trailer	4.6
Tent trailer	1.1
Van/Camper-truck	28.7
Car/Truck/SUV	63.3
Other	3.4

n = 87. Some groups had multiple vehicles.

A major change in camping during the past 30 or so years has been the increasing popularity of large RVs in campgrounds. In this study almost half of the groups had some sort of RV. The design changes required for a tent campsite to accommodate large RVs can be substantial--the primary problem is their size. A typical family sedan may be 15 to 18 feet long, while RVs are often twice this length. Table 3 gives the reported distribution of RV sizes.

Table 3. Size of motor home or RV trailer.

Size of RV (ft.)	Percent
18-21	20.0
21-24	25.0
24-27	40.0
27-35	25.0
35-40	5.0

n = 17. Some groups had multiple RVs.

Tents are still the most common form of camping accommodation, being used by 78% of the groups. Both smaller tents and larger family tents are popular. The percent of groups using tents of these sizes are shown in Table 4.

Table 4. Size of tents.

Tent size (ft.)	Percent
< 9' x 12'	71.2
> 9' x 12'	47.0

n = 66. Some groups had multiple tents.

How did they like the prototype sites? The overall reaction to the prototype campsites was very positive – 34% thought they were excellent, 52% good, 8% adequate, and 6% poor. The overall mean rating was 1.85 (1 = excellent, 2 = good, 3 = adequate, 4 = poor). The ratings for the several alternative attributes of the prototype campsites and tests for the significance of their differences are given in Table 5.

The crushed rock surface was rated excellent or good by almost 60% of the respondents. The surface material fulfilled the design specifications — throughout the summer these sites were never muddy or dusty. The surface accommodated most types of vehicles and tents, and never showed tire impressions. However, some comments were received indicating that the surface was too hard or that its appeared constructed rather than natural. Distributing pine needles over the sites was an attempt to

respond to the psychological reaction to a crushed granite appearance. This experiment did not improve ratings; to the contrary, they dropped slightly. It was interesting that in a couple of instances groups were observed sweeping all the pine needles to one side, apparently in an effort to keep the site "neat and clean." Positive responses were highest for RV users (87% excellent or good) and lower for tent campers (50% excellent or good) and people with both tents and RVs (45% excellent or good).

Both the new concrete and traditional metal food storage lockers received very high ratings by the campers. Unfortunately, the concrete locker turned out not to be bear-proof. The first bear break-in occurred August 3, apparently because the locker was not properly latched. On August 15 it was broken into a second time, serving testimonial to the resourcefulness of YV bears! Experience has taught YNP rangers to respect bear ingenuity, so the concrete lockers were replaced by the proven metal locker design.

Table 5. Ratings of campsite attributes.

Attribute	n	$\bar{X}$	F-test
Surface material:			
Crushed granite	41	2.23	F = 0.43
Pine needle duff	46	2.39	p = .515
Food locker:			
Concrete	16	1.44	F = 0.04
Metal	74	1.39	p = .833
Picnic table:			
Concrete/plastic	21	1.29	F = 0.62
Metal/wood	68	1.43	p = .435
Camp grill:			
Old flip-up grill	7	2.71	F = 4.20
ADA fire ring	60	1.62	p = .018
ADA picnic grill	17	1.94	

Ratings: 1 = excellent, 2 = good, 3 = adequate, 4 = poor.

Both types of picnic tables were also highly rated. While one feature of the lighter metal and wood tables was that they could be moved around the site, there was also the possibility of abusing this flexibility. However, no group was observed placing their table outside the campsite boundary.

Campfires are an important part of the camping experience for many people. In VY, fires are only permitted in the provided camp grills. The old style flip-up grate over a concrete base was judged as adequate, but significantly less desirable than the new ADA compliant fire rings. The new ADA picnic grill was also rated as good, though it was not suitable for 'campfires.'

The theme of cooking and campfires was explored further. Table 6 shows that over 80% of the groups used equipment they brought with them for cooking, so the provided campfire grills are not usually necessary for cooking. On the other hand, the campfire grills are popular for campfires. It was hoped that campers would be amenable to sharing campfires with another campsite, since campfires in intensively used areas such as YV can cause

management problems. When asked, 45% of campers responded with a flat-out "No," while the rest indicated some willingness to give it a try.

Table 6. Cooking equipment brought.

Type cooking equipment	Percent
None/no answer	19.1
Own BBQ grill	21.4
RV stove	5.7
Camp stove	68.6

n = 89. Some groups had multiple equipment.

Is the campsite boundary respected? The new universal design establishes clear campsite and path boundaries in an effort to contain human activities to areas designed to withstand their impact. One of the purposes of observing the campsites was to determine whether activities were being restricted to within the clearly bounded areas. Table 7 reports the percent of times a ranger observed an indication that human activity was not being contained, or that it was damaging the surrounding natural resources.

Only 11% of the groups were observed placing equipment outside the campsite boundaries, and equipment brought by 12% of the groups was observed to have potential impacts on resources. This included hanging equipment in trees or placing equipment on ground cover. The results from the survey are similar, where 13% of the groups indicated they did not have adequate space. In contrast, the rangers only observed a couple of instances (1%) where a group appeared to have insufficient space.

There were several observed indicators that campers were impacting areas beyond the defined site. Ropes were observed strung to trees beyond the edge of the site for 11% of the groups. People were also observed walking outside their campsite's border (8%), using unofficial trails (7%), and cutting through another campsite (6%). When one thinks about the large population of campers using YV, these numbers could result in substantial negative impacts. In contrast, observations of older existing sites in the same campground indicate that these problems are approximately twice as common there.

Table 7. Campsites with observed problems.

Problem	Percent
Equipment placed off-site	11.2
Equip. potentially damaging resource	12.4
Ropes strung to trees off-site	10.7
See walking outside boundary	8.3
See social (unofficial) trail use	6.5
See cutting through campsite	5.9
Insufficient room on site	1.2

n = 169.

Conclusions

This modest evaluation of four prototype campsites indicates that the universal design approach meets both campers' needs and helps protect the surrounding resources. Equipment assessments were successful in determining types of ADA campsite furniture for future use. The Yosemite prototype campsites best meet the needs of people with disabilities and visitors with recreational vehicles (RV). The universal campsite design is recommended for future use by adapting its form and function to the site conditions, range of access needed (e.g., ADA compliance), the types of suitable edging and surface materials available, and the shape and size requirements. In order for the universal design to be successful in protecting resources, campsite design must be incorporated into the entire circulation system for vehicles and pedestrians throughout the campground. This will alleviate impacts to resources from short-cutting caused by inadequately designated trails, poor way-finding, and off-pavement parking. Campsite screening through revegetation is also needed to provide a sense of campsite boundary, noise reduction, shade, and enhanced visitor experience through connection to the natural environment. In the spirit of adaptive management, the effectiveness of future changes should also be monitored.

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A LIFE TO RISK: CULTURAL DIFFERENCES IN MOTIVATIONS TO CLIMB AMONG ELITE MALE MOUNTAINEERS

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Abstract: This study explored the cultural differences and motivations to climb of elite, male mountaineers. The purpose of the study was to first determine the motivations of elite male mountaineers and then link these motivations to the culture in which the mountaineer lives or grew up in. Five co-researchers participated in the study: two Canadians, two Americans, and one from the United Kingdom. To understand the co-researchers' motivations, culture, risk perceptions and cultural perceptions, a standardised survey was sent out containing fifteen open and closed ended questions. The survey was qualitative in manner and achieved a greater understanding of the climbers' knowledge and opinions about motivations, risk and global culture. Through a thematic analysis of survey results, various common themes emerged. Discussion of co-researchers' common themes regarding risk, motivation and culture allowed for a variety of findings, including: mountaineering because you are good at mountaineering, mountaineering to go places, enjoying the hard work, having barriers of physical difficulty and time, overcoming such barriers through persistence, managing risk to reduce it, being sensitive to mountain cultures and being aware of economically dis-advantaged cultures that have little time for recreation. Overall, this study found little connection between a mountaineer's culture and his motivations, perhaps due to the similarity of the co-researchers' cultures.

Introduction

This research project exposed and examined the cultural motivational differences of elite male mountaineers to climb and determined which of the differences and commonalities in motivation were based on cultural background. To accomplish this, a survey of 15 open-ended questions was mailed in May, 1999 to 17 elite male mountaineers from five countries (Canada, the USA, the United Kingdom, Russia and Austria). These mountaineers were assessed as elite through sponsor and national mountaineering organisation assistance.

A thematic analysis of the collected data from the five respondents from three countries (response rate of 29.4%) uncovered numerous themes showing congruence across the three respondent cultures (Canada, the USA and the

United Kingdom) and led to some interesting conclusions. Emerging themes were drawn from the data and compared across the five participants to create clusters of common themes. These common themes were then closely analysed and are discussed in the following pages

Significance

Past researchers have often touched on the topic of cultural differences in mountaineering motivations and mountaineers in general, but to date no in-depth research on the topic has been found. Perhaps this research can, in the wake of recent tragedies, such as those on Everest (Boukreev &DeWalt, 1997), explain why a Russian mountaineers are often misunderstood, or why Western mountaineers will often shun their principles for money or fame. Through this study, it is hoped that certain cultures can come to realisations, or at least recognise how their overall attitudes can affect the mountaineering community.

This study also has significance in opening new perspectives towards the lifestyles of mountaineering and what mountains mean to mountaineers. A glimpse into the understanding of the mountaineering sub-culture and mountaineering's place in various cultures is also discussed by this study.

Previous Research

Williams and Donnelly (1985) provide what is likely the best look into the sub-culture and transformation of climbing among western society. The authors provide a glimpse into the similar social backgrounds and values of climbers, thus showing a place for the examination of social differences, and from there, cultural differences.

Research by Rossi and Cereatti (1993) used Zuckerman's scale of sensation seeking to observe many categories of mountain athletes. Findings showed that cavers generally show the same quest for uncertainty as mountaineers, which may be attributed to the periods solitude and intensity associated with these activities (Rossi & Cereatti, 1993). Furthermore, the study investigated the specific activities of mountaineers from various nationalities; the authors note differences in activity preferences by culture.

Ewert (1985) provides strong insight into why people climb based on his study of participant motives and experience level with regards to mountaineering. He also evaluates the underlying motives of mountaineers, which create the need to invade a hostile environment, the mountains. The focus of motivation appears to stem from the anticipated benefits of risking life and limb whether it be in the mountains or elsewhere (Ewert, 1985). Ewert's (1985) study indicates that experienced mountaineers are less interested in external motivations, and more motivated by personal testing and developing an internal locus of control. In 1994, Ewert extended his research on motivation and risk taking by moving into a high altitude environment on Denali. Study results proved to be somewhat inconclusive with regards to risk playing a role in mountaineering motivation (Ewert, 1994).

Breivik (1996) researched risk taking behaviours among Everest climbers on a Norwegian Everest expedition. From the study a relationship between sensation seeking, as categorised by Zuckerman (1979), and risk taking appeared with relation to reaching goals. Within his results, Breivik (1996) compared his findings with those of other studies that took place in the past on mountains such as K2. Breivik (1996) found the Norwegian subjects to score in the tough-minded, independent, low anxiety category along with Czechoslovakian elite climbers. In direct contrast, were English elite climbers and the Italian K2 expedition members scoring as more introverted, sensitive and more tense.

Bratton, Kinnear, and Koroluk (1979) observed the specific sector of the Canadian Alpine Club-Calgary Section for their research project. To Bratton et al. (1979) the conclusion is almost assumed, "there can be little doubt that many forms of mountaineering border on the ultimate in stress seeking" (p. 23). It appears from the research presented, that elite athletes look more to the risk factor, where as novices look to the exercise and relaxation aspects (Bratton et al., 1979).

From the studies cited above, a critical gap in the research on mountaineers becomes apparent. Mountaineering is highly researched, as is motivation and risk; the missing link is a specific study on culture, a study that brings the aforementioned concepts together. This study attempts to contribute to all the areas of mountaineering, motivation, risk, and culture, and specifically tie together the question of whether there are cultural differences in motivations of elite male mountaineers to climb.

Research Findings and Discussion

To understand the results of the study a brief introduction to the participants is imperative. Each of the five respondents has over 15 years of personal mountaineering experience. Two of the respondents were from Canada, two from the USA and one from the United Kingdom. Some have summitted on all seven continents, others have led expeditions from the Himalayas to Antarctica, some have made highly acclaimed first ascents, while others have guided clients on peaks from Argentina to Alaska.

A common theme is defined in this study as one that emerged from three of the five respondents. Particular attention was paid to those common themes which, were backed by either both American or both Canadian respondents. Verification of a common theme by both respondents of a culture showed cultural significance rather than just individual opinion and allowed for a more in-depth analysis. Due to study participation, no cultural verification could take place for the culture of the United Kingdom, as there was only one respondent. The following section interprets and provides a meaningful discussion on each common theme. The co-researchers who expressed a common opinion are analysed and any vastly different or interesting opinions are exposed.

Clusters of Common Themes

1) Mountaineering Motivations
   a) good at mountaineering (1 Canada, 1 USA, 1UK)
   b) going places-exploring the outdoors (1 Canada, 1 USA, 1UK)
   c) exercise/hard work (1 Canada, 1 USA, 1UK)
   d) inner love, being alive (1 Canada, 1 USA, 1UK)

2) Mountaineering Barriers
   a) physical difficulty (2 Canada, 1 USA)
   b) psychological/time (2 Canada, 1 USA, 1 UK)

3) Overcoming Barriers
   a) persistence (2 Canada, 1 USA)

4) Risk
   a) manage risk to reduce it (1 Canada, 2 USA)

5) Cultural Thoughts
   a) mountain cultures are more supportive (1 Canada, 1 USA, 1UK)
   b) cultures with less economic advantage have little time for recreation (1 Canada, 1 USA, 1UK)

Mountaineering Motivations

As stated by Bratton, Kinnear & Koroluk (1979), mountaineering, in essence, is the deliberate intrusion into a dangerous, but beautiful setting. The motivations for such a journey, as determined by previous studies, makes a list of great length. For mountaineering motivations, common themes were found to be: good at mountaineering, going places-exploring the outdoors, exercise/hard work and an inner love, being alive.

Good at mountaineering
Achieving a high level of success at any activity brings about positive reinforcement to continue pushing ones limits and continue in that activity. Mountaineering is no different in this sense; if a mountaineer is good they will likely continue to enter the mountains. One Canadian described himself; "I am a mountaineer because I am a failure as a hockey player". An American respondent likened being good at mountaineering to his hatred of team sports, in particular the US national sport of baseball. Becoming good at an activity through one's own hard work tends to drive a participant to continue, but when this high level of achievement is forced, being "good" can push someone away from an activity. Three respondents stated that they mountaineer because they are good at it or have become respected because of it. Tied into this is the fact that they all have financial interests in being good at mountaineering; their personal income dictates that they are good at their chosen profession, mountaineering.

Going places-exploring the outdoors
All the co-researchers enjoy travelling the world in search of new mountaineering challenges. There is, however, some difference between travelling simply to climb a peak and travelling out of love for exploring. Leaving their

homes for the high altitude wilderness never loses its draw or effects on them. A mountaineer from each culture placed going places and exploring as a mountaineering motivation. One Canadian respondent stated that his love comes from "going to beautiful places and moving around in an exotic environment". Developed mountains will push one American respondent away and for the lone British co-researcher, travelling appears to be a natural progression, which simply came with moving up his personal climbing ladder.

Exercise/hard work
Exercise and hard work have always been a part of global culture. In the past, the affluent enjoyed being physically active, while for the poor labour class this meant hard work for the benefit of the wealthy. Today, among the western world, exercise is highly valued, while the hard work ethic appears to be losing ground in the west. For the third world hard work is still the basis of the economy.

Every culture studied expressed the need to exercise and hard work as a motivation for mountaineering. For one Canadian the hard work involved in mountaineering was at first a barrier to participation, but as time went on the pain left and the beauty of the exercise in a beautiful environment remained. The pain of backpacks held a US respondent back as well, but the joy of feeling his body move over rugged terrain prevailed. In being able to mountaineer the British respondent had to engage with natural and real challenges, while also working hard in the politics and regulations associated with Himalayan mountaineering. As a preamble to every expedition, one respondent stated that he must " train like hell... to prepare mentally and physically".

Inner love, being alive
An inner love of the mountains is a difficult theme to explain because each individual's inner love is a separate entity. As one American indicated, he feels a need for climbing-mountaineering: an inner love of the mountains, travel and adventure. The British inner love seems to come from being alive and free in an inspiring environment; such an environment could not hold such inspiration without comfort. To a novice mountaineer the environment would appear dangerous, not that it isn't, but to the elite the mountains inspire the inner child.

Mountaineering Barriers

In any activity there are barriers to participation and success. What makes a participant strive is the ability to overcome such barriers. Mountaineering barriers are varied due to the unpredictable nature of the sport. For the co-researchers of this study, two barriers appeared common among the myriad of others, those of physical difficulty and psychological/time.

Physical difficulty
Physical difficulty can include many factors such as injury, illness, disability, training regime or stature. Difficulty, although a barrier, results in a challenge or an object for which a solution must be found. Difficulty can result in a

driving force for some individuals to continue, for without difficulty there would be no motivation. Three respondents indicated physical difficulty as a barrier to be overcome, in fact one went so far as to say that he is "a skinny weakling"; an interesting comment from such an accomplished mountaineer. For all three mountaineers who found physical difficulty a barrier it was overcome with time, either by simply dealing with it as a fact of mountaineering or by becoming stronger.

Psychological/time
Psychological barriers are often the most difficult barriers to overcome. Unlike physical barriers, which mostly heal with time and rest, psychological barriers often shake a person so deeply that to face a particular barrier takes an enormous amount of courage. Psychological barriers can take many faces such as: fear and the thought of death, but also time. Time, as a psychological barrier to mountaineering, can become overwhelming. Lack of time during an expedition can create excessive pressure to push on and put oneself in dangerous situations.

Psychological barriers became common through the responses of four co-researchers. Again the thought of being "a skinny weakling" is a psychological barrier. In some situations these thoughts may have held a person from attempting aspects of mountaineering. For the British respondent, the primary psychological barrier was time with regards to being able to find funds for an expedition or be on an expedition for such a long period of time. Time as a barrier, appeared for one Canadian, in terms of the time it takes to grow strong and learn the ways of a mountaineer. This psychological barrier of time is directly tied to physical difficulty.

Overcoming Barriers

To overcome barriers which prevent a person from succeeding are often the strongest motivators and allow for tremendous feelings of achievement and self worth. However, often these barriers continue to plague a person and, in many cases, may never be overcome. Overcoming barriers in this study of mountaineering included themes such as training like hell and personal rewards. Among three of five co-researchers a common theme for overcoming barriers materialised as persistence.

Persistence
Persistence is the ability to be pushed down and then get up again to continue. Persistence could be to overcome physical injury with the will to move on or persistence could be getting hit with bad weather and waiting out the storm. In any case, persistence pays off. Of the co-researchers, three expressed persistence as a common theme when overcoming barriers to their mountaineering careers. As mentioned by both Canadian co-researchers, persistence could be seen as a trait of Canadian mountaineering and culture. Persistence is essentially what may cause one Canadian to train like hell to prepare for an expedition even though he is a self proclaimed "skinny weakling". For the other the long road to success through physical and mental growth can be seen as persistence. For

one of the American respondents, motivation was simply stated as persistence; persistence to reach personal rewards in climbing has driven him to 33 expeditions thus far, created a successful retail and guiding business and also allowed a lifestyle where, "after one trip I plan the next".

Risk

Mountaineering is full of risk both perceived and real, human and environmental, objective and subjective. Strategies to control or avoid risk are many and varied. Each culture and individual has their own way of coping, minimising or dealing with risk. For the co-researchers of this study, managing risk to reduce it was the only common theme.

Manage risk to reduce it
To manage risk is to first identify it and then seek to minimise identified aspects. There is little doubt that risk is a primary draw for mountaineers. Some mountaineers wish to deny the aspect while for others it provides the adrenaline to push the limits of the sport. Risk gone wrong spells disaster when not properly managed. All who identified managing risk as a common theme are guides who must constantly be on the lookout for risks, which may put their unwary clients at risk. An interesting point of view came out of this theme in that the British respondent was the only one to talk about how no peak is worth a life. He stated his primary thought on risk as avoiding risking his life.

Cultural Thoughts

As part of this study each mountaineer was asked to identify their culture, but also give some reflection as to what their culture offered to their mountaineering lifestyle. Their personal cultural reflection proved unsuccessful in creating common themes; however, the common themes of mountain cultures as being more supportive of their mountaineers and cultures who are economically disadvantaged having little time for recreation were exposed.

Mountain cultures are more supportive
In most mountain cultures, mountains are a large portion of the surrounding landscape and are explored and examined from any early age. Mountains to an outsider strike a chord because they are immense and imposing. Mountain cultures are completely immersed in the mountains from birth and, thus, the phenomenon of exploring the mountains tends to seem tame by most standards. Culturally, among co-researchers, one Canadian, one American and the only British co-researcher expressed this common theme.

Cultures with economic disadvantage have little time for recreation
Cultures with greater economic advantage have the money and leisure time available for mountaineering, but what about those cultures struggling to meet basic needs? As expressed by Maslow (1970), it is difficult for a person to worry about being self-actualized and seeking nature's beauty and their inner self if their basic needs of food, water and shelter are not being met. Are there many mountaineers from third world countries? The answer is sadly, no. Mountaineering, due to its costs for equipment and travel, are thus restricted to mostly first world nations.

Of the five co-researchers, three supported and expressed the statement that cultures with less economic advantage have little time for recreation. These three are all from different cultures, but each are from first world countries and have mountaineering experience in third world countries.

Implications for Professional Practice

In addition to the significance of the research conducted there are several other points or implications which make such research important to professional practice. As expressed above, the motivations of a culture to climb or face risk may give an indication of why an action may occur or if an action could occur. In looking at elite mountaineers, the participants are in small numbers against the general populous of mountaineers, but do provide significant influence. For example, it is these elite mountaineers who often serve as role models or inspiration to the majority of other mountaineers. The elite sub-population of mountaineers serves as opinion leaders and thus, managers of mountainous national parks or protected areas could learn about the motivation of their users based on similar research.

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OUTDOOR RECREATION BEHAVIORS AND PREFERENCES OF URBAN RACIAL/ETHNIC GROUPS: AN EXAMPLE FROM THE CHICAGO AREA

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Abstract: A study of outdoor recreation preferences and behavior of Non-Hispanic White Americans (n=618), African Americans (n=647), and Hispanic Americans (n=346) in Cook County, Illinois was conducted in early 1999. Respondents were contacted in a phone survey using random digit dialing and a quota for each group. Important similarities and differences were found among these three groups in their participation in 43 activities and use of 20 places. In addition, gender, age, education, income, residence, and household size helped explain outdoor recreation preferences and behavior. Results reported here reinforce the need to avoid stereotyping particular groups or using simple explanations of their outdoor recreation behavior.

Introduction

With increasing racial/ethnic diversity of the U.S. population, researchers continue to work to identify the outdoor recreation preferences and behaviors of racial/ethnic groups. This research in turn helps resource managers to better meet the needs of their diverse customers. One limitation of past studies on this topic has been that they have often relied on data gathered for other purposes. The result has been small sample sizes and limited information on which to base the analyses (For example, see Dwyer 1992, Dwyer 1993, Dwyer 1994, Dwyer and Gobster 1992, Dwyer and Hutchison 1990).

We set out to break with this pattern by intentionally oversampling particular racial/ethnic groups in order to obtain a large enough sample of respondents to make statistically valid statements about their outdoor recreation preferences and behaviors. This oversampling technique was achieved by using a quota sample of residents of Cook County, Illinois which includes the city of Chicago. Due to space limitations in the proceedings, this article focuses on presenting descriptive data on the groups' recreation preferences and behaviors and only takes a first step toward making more in depth interpretations and recommendations. Additional information is available from the authors and will also appear in forthcoming publications.

The Sample

We wanted to sample urban Whites (non-Hispanic), African Americans, Hispanic Americans, and Asian Americans from the general population using a brief telephone survey that would focus on participation in a wide range of outdoor recreation activities and use of a number of diverse places. We chose this over an on-site survey since we wanted to learn about both participants and non-participants. Obtaining a representative sample of Asian Americans proved to be a major challenge because of their small numbers in the general population. Therefore, in this study we ended up not including a quota for Asian Americans. The Hispanic sample was difficult to obtain, even with Spanish speaking interviewers. Getting respondents from each group would have been easier if we were willing to target our sampling on neighborhoods where particular groups were concentrated. We chose not to do this in light of past research results suggesting that individuals who live in neighborhoods where a single group predominates have different recreation preferences and behavior than those who live in more diverse neighborhoods (Klobus-Edwards 1981). We decided to focus on Cook County, which includes Chicago (3 million residents) and its nearby suburbs (2.5 million residents) because of its diverse population. We used random digit dialing with a quota for each racial/ethnic group. Heads of households were surveyed, alternating between males and females. Our sample targets were 600 Whites (non-Hispanic), 600 African Americans, and 300 Hispanic Americans. Our final sample included 618 Whites, 647 African Americans, and 346 Hispanic Americans.

The Survey Instrument

The survey instrument was patterned closely after the Illinois SCORP (Statewide Comprehensive Outdoor Recreation Participation) Survey that is conducted every few years by the Illinois Department of Natural Resources, and which we have used for previous analyses (such as Dwyer 1992, Dwyer 1993, Dwyer 1994, Dwyer 1995, Dwyer 1996, Dwyer 2000, Dwyer and Gobster 1992, and Dwyer and Hutchison 1990).

Respondents were first asked about their participation in 43 different activities using the question, "In the past 12 months, did you go ...?" We asked, "When you go to a public outdoor recreation area in Illinois, (including city, county, state, federal parks and forests) with whom do you usually go?" Seven response categories were provided. Respondents were asked about 19 site attributes through the question, "In order to plan for all kinds of public outdoor recreation areas in Illinois in the future, how important is it to you that a public outdoor recreation area you visit (READ ATTRIBUTE -- e.g., "is safe from crime")?... Would you say very important, somewhat important, or not important?

We asked the level of naturalness (i.e., lack of development) people preferred for outdoor recreation with the question, "Which one of the following statements most closely describes why you use public outdoor recreation

areas in Illinois?" Four response options were read to respondents. Importance of outdoor recreation was determined with the question, "In general, how important to your everyday life are outdoor recreation opportunities ... would you say very important, somewhat important, not too important, or not at all important?

Finally we asked respondents where they went for outdoor recreation. In one question we asked, "In the past 12 months, about how many times would you say you went to public outdoor recreation areas outside Illinois?" Following this we asked about whether or not people had visited each of 20 different places located in Chicago, Cook County, surrounding counties, and the Shawnee National Forest in Southern Illinois. Basic demographic information gathered included race/ethnicity, zip code, age, gender, income level, education level, and number of people in the household.

Demographic Differences Across Racial/Ethnic Groups in the Sample

There were significant differences among the samples for the three racial/ethnic groups in the following characteristics: gender, age, location of residence, education, income, and household size. African Americans had the highest proportion of females interviewed (62%), followed by Hispanics (58%), and Whites (54%). A chi-square test indicated the proportions were significantly different for the various groups (p<.05). Mean age for respondents was lowest for Hispanics, while Whites had the highest ages on average (Table 1). Individual respondents were assigned to one of five areas in Chicago and Cook County based on their zip code (Table 2). Whites predominated in the northern suburbs and to a lesser extent in the southern suburbs and northern Chicago. African Americans heavily predominated in the southern part of Chicago, and to a lesser extent in central Chicago. Hispanic Americans did not predominate in any area, but made up their largest share of the sample in central and northern Chicago. Whites on average had the highest levels of education and income, and Hispanics the lowest (Tables 3, 4). Hispanics had the largest average household size and Whites the smallest (Table 5).

Comparisons of Participation Across Groups

Simple comparisons were made across groups for participation in 43 diverse outdoor activities and use of 20 diverse places (Tables 6, 7). Our goal was to look for patterns of similarities and differences between groups across the wide range of activities and places that are important to urban residents seeking outdoor recreation opportunities. Significant differences in participation were measured between racial/ethnic groups in 33 of 43 activities and 13 of 20 places.

Among the general patterns of similarities and differences across groups was that Whites were significantly more likely than the other two groups to participate in activities that required a natural environment, such as tent camping and downhill skiing. Whites were also significantly more

likely than the other two groups to use places outside of Chicago, such as Chain-O-Lakes State Park (Lake County), Morton Arboretum (DuPage County), and Chicago Botanic Garden (far north boundary of Cook County). These areas are accessible to significant concentrations of the White population.

African Americans were significantly more likely than the other two groups to use some places in Chicago, to include Grant Park, Museum of Science and Industry, and Garfield Park Conservatory. Hispanic Americans were significantly more likely than the other two groups to visit Lincoln Park Zoo in Chicago. These areas are accessible to significant concentrations of the respective populations.

We estimated logistic regression models to explain participation in each of the 43 outdoor recreation activities and use of each of the 20 places in terms of race/ethnicity, gender, age, location of residence, education, income, and household size. When all of these variables were included in the analysis, we identified significant differences between racial/ethnic groups in participation in 27 out of 43 activities, and use of 14 out of 20 places. This is a slight reduction in the number of significant differences in activities between racial/ethnic groups identified when only race/ethnicity was considered; but an increase in the significant differences in uses of places over those identified when only race/ethnicity was considered. Space limitations preclude presenting the logistic regression models in this paper. However, the models correctly classified 58 to 99 percent of the respondents with respect to their participation in 43 outdoor recreation activities. Logistic regression models correctly classified between 59 and 97 percent of the respondents with respect to their use of the 20 outdoor recreation places.

The contribution of various demographic variables to the ability of the model to classify participants and non-participants varied a great deal across activities and places. Female gender had a positive correlation with participation in walking for pleasure and gathering plants, as well as visiting Lincoln Park Zoo and the Chicago Botanic Garden; but a negative correlation with participation in many sports and activities that generally use wild or remote sites as well as use of Montrose Point in Lincoln Park. Age had a negative correlation with participation in athletic activities; but a positive correlation with observing wildlife and gardening; as well as visiting a large number of places. Household income had a positive correlation with participation in a wide range of activities and the use of some places; but never had a significant negative correlation with participation in an activity or use of a place. Education had a significant positive correlation with participation in most activities and use of most places. Place of residence factored in to participation in that proximity of residence to particular places was positively correlated with use of some of those places. For example, participation in ice skating was associated with residence in central Chicago.

Preferences

All groups reported that outdoor recreation was important to them, with the Hispanic American and African American respondents reporting the highest levels of importance (Table 8). Whites were significantly less likely than other groups to prefer highly developed facilities in outdoor recreation areas, while African Americans were the most likely to prefer developed facilities (Table 9). Hispanics were in-between the two other groups, with slightly over half (55%) of respondents preferring highly developed facilities. This is consistent with findings of an earlier study that included interviews with Hispanics about their preferences at a picnic area in the San Bernardino National Forest (Chavez, Larson, and Winter 1995). The patterns in preferences for the three groups mirror activity participation patterns as well as the use of selected places.

Respondents evaluated a list of 19 site attributes with respect to their importance (Table 10). Attributes were then rank ordered for each group based on the mean importance score. The rankings were relatively similar for all three racial/ethnic groups, with safety, cleanliness, restrooms, and drinking water the four most important site attributes. There were also some notable differences in rankings between groups. For example, Whites differed from the other two groups in placing a higher rank on the lack of crowding and the presence of a lake or river; but a lower rank on organized events and educational talks. These patterns are consistent with other study findings that indicated Whites preferred natural areas and less development at sites. Asked, "Who do you go with to public outdoor recreation areas in Illinois?" Hispanic Americans were the most likely to report that they recreate in a group that included adults and children in the family (Table 11). Although the proportion of respondents indicating they went with church/social groups was small, African Americans were the most likely of the three racial/ethnic groups to recreate in Church/social groups. Perhaps a tendency to recreate in family/church/other social groups is associated with outings that tend to be relatively close to home and where large groups can easily gather. Hispanics tended to take the fewest number of trips out of state for outdoor recreation ($\underline{m}$=1.7), followed by African Americans ($\underline{m}$=2.5). Whites took the most trips averaging 6.3 out of state trips for outdoor recreation per year (t-tests indicated significant differences between groups at p<.05).

Table 1. Comparison of Age Distribution Reported by Racial/Ethnic Groups (in percent).[1]

Age Range	White	Black	Hispanic
17-25	8	10	17
26-39	26	32	52
40-55	32	30	25
56-65	16	13	4
66-91	17	14	2

[1]Chi-square test indicated significant differences (p<.05).

Table 2. Comparison of Area of Residence Reported by Racial/Ethnic Groups (in percent).[1]

Area	White	Black	Hispanic
N Suburbs	72	18	10
N Chicago	50	14	36
Ctrl Chicago	18	43	39
S Chicago	13	82	5
S Suburbs	55	31	14

[1]Chi-square test indicated significant differences (p<.05).

Table 3. Comparison of Education Level Reported by Racial/Ethnic Groups (in percent).[1]

Education Level	White	Black	Hispanic
< High School Graduate	7	14	40
High School Graduate	16	16	23
Trade School	6	7	4
Some College	23	36	15
College Degree	25	14	10
Some Graduate School	4	2	2
Graduate Degree	20	11	5

[1]Chi-square test indicated significant differences (p<.05).

Table 4. Comparison of Household Income Level Reported by Racial/Ethnic Groups (in percent).[1]

Income	White	Black	Hispanic
< 15K	10	19	26
15K-25,999	13	17	31
30K-39,999	19	24	23
40K-59,999	21	19	13
60K-79,999	15	10	5
80K-99,999	10	6	3
100K+	12	5	1

[1]Chi-square test indicated significant differences (p<.05).

Table 5. Comparison of Mean Household Size Reported by Racial/Ethnic Groups.[1]

Race/Ethnicity	Mean	% of Households with four or more residents
White	2.7	11
Black	3.1	18
Hispanic	4.2	42

[1]T-tests indicated significant differences (p<.05

Table 6. Comparison of Participation in Selected Outdoor Recreation Activities By Racial/Ethnic Groups (in percent).[1]			
Activity	White	Black	Hispanic
Walk	75++	67-	58-
Zoo	59+	46-	61
Picnic	47	51	46
Drive	51+	46	40-
Bike	47++	37-	40-
Sport spectator	46++	31-	34-
Garden	44++	30-	21-
Pool Swim	45++	23-	32-
Run	30	30	29
Basketball	20--	30+	30+
Arboretum	39++	18-	22-
Observe Wildlife	33++	2-	19-
Non-Pool Swim	34+	14-	32
Baseball	21-	31+	23
Volleyball	17--	22+	23+
Fish	24++	16-	15-
Nature Center	30++	10-	12-
Golf	27++	10-	9-
Hike	24++	8-	9-
Tennis	14	14	12
Tent Camp	18++	9-	12-
Motorboat	21++	7-	5-
Ice Skate	15++	8-	9-
Rollerblade	14+	7-	10
Soccer	8-	6	24+
Horses	9	8	6
Gather Plants	9	8	8
AT Vehicle Use	9	6	6
Volunteer Plant tree	6	7	6
Canoe	11++	3-	7-
RV Camp	7+	4-	8
Rock/Fossil hunt	7+	4-	5
Backpack	6	5	5
Downhill Ski	8++	3-	4-
Vol. Clean River	6+	6	2-
Sail	7++	4-	3-
Water Ski	7++	1-	2-
Vol. Ecol. Restore	3	3	2
X-Country Ski	5++	1-	2-
Hunt	3+	3	1-
Ice fish	3++	1-	1-
Snowmobile	3+	1	1-
Trap	-	-	0

[1] +Significantly higher than one other group at p<.05.
    - Significantly lower than one other group at p<.05.

Table 7. Comparison of Use of Selected Outdoor Recreation Places By Racial/Ethnic Groups (in percent).[1]			
Place	White	Black	Hispanic
Grant Park	63+-	72++	50--
Mus. Sci/Indust.	52+-	59++	45--
Brookfield Zoo	50	52	51
Lincoln Park Zoo	45--	53+-	60++
Field Museum	48	51	45
Shedd Aquarium	45-	52+	50
Lincoln Park Conservatory	25	25	31
Chicago Botanic	30++	24-	23-
Indiana Dunes	25	24	21
Garfield Park Conservatory	10-	33++	9-
Montrose Point	20+	14--	20+
Morton Arboretum	22++	7-	7-
Illinois Beach SP	14+	12	10-
Chain O Lakes SP	23++	6-	6-
North Park Vill Nature Center	6	4	4
Shawnee NF	6+	4	3-
Morain Hills SP	5	3	2
Goose Lake PR	4	3	3
Midewin NTGP	2-	4+	3
Ryerson Woods	4+	3	1-

[1] +Significantly higher than one other group at p<.05.
  - Significantly lower than one other group at p<.05.

Table 8. Comparison of Importance of Outdoor Recreation Reported by Racial/Ethnic Groups (in percent).[1]			
Importance	White	Black	Hispanic
Very	40	50	62
Somewhat	43	39	34
Not too	13	8	4
Not at all	5	4	1

[1] Chi-square test indicated significant differences (p<.05).

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Table 9. Comparison of Response to the Question, "Which one of the following statements most closely describes why you use public outdoor recreation areas in Illinois?" Reported by Racial/Ethnic Groups (in percent).[1]

Statement	White	Black	Hispanic
To enjoy undeveloped natural surroundings with no facilities	7	4	11
To enjoy undeveloped natural surroundings with limited facilities	53	23	32
To enjoy nature and recreation with highly developed facilities	33	66	55
Do not use Illinois outdoor recreation areas	7	8	3

[1]Chi-square test indicated significant differences (p<.05).

Table 10. Importance Rankings of Outdoor Recreation Site Attributes By Racial/Ethnic Groups.

Site Attribute	White	Black	Hispanic	ALL
Safe from crime	1	1	2	1
Clean/ maintained	2	2	1	2
Restrooms	3	3	4	3
Drinking water	4	4	3	4
Parking	5	5	5	5
Nature/scenery	6	7	6	6
Picnic facilities	8	6	7	7
Not too crowded	7	10	13	8
Close to home	11	12	9	9
Self-guided nature trail	10	14	11	10
Educational talks	14	8	8	11
Lake or river	9	15	14	12
Nature center	12	13	10	13
Organized events	17	9	12	14
Paved trails	15	11	15	15
Unpaved trails	13	17	17	16
Guided hikes	16	16	16	17
Fishing	18	18	18	18
Boat launching	19	19	19	19

Table 11. Comparison of Response to the question, "Who do you go with to public outdoor recreation areas in Illinois?" reported by Racial/Ethnic Groups (in percent).[1]

Who do you go with?	White	Black	Hispanic
Adults in the family	20	11	16
Children in the family	8	13	11
Adults & children in the family	35	43	58
Church/Social group	1	4	1
Friends	28	20	12
No one/Alone	5	6	1

[1]Chi-square test indicated significant differences (p<.05).

Summary and Conclusions

Our samples of White (non-Hispanic) American, African American, and Hispanic American residents of Cook County Illinois had significant differences in gender, age, education, income, residence, and household size; all of which can have implications for outdoor recreation preferences and behavior. These variables and race/ethnicity in a logistic regression model help explain participation in 43 outdoor recreation activities and in the use of 20 selected outdoor places.

Important similarities across the three racial/ethnic groups include the attachment of a high level of importance to outdoor recreation (especially high for the Hispanic and African American groups), and the high level of importance of safety, cleanliness, and drinking water at the areas where they recreate. Important differences between racial/ethnic groups include the specific activities engaged in, places used, preferences for site development and programming, who accompanied individuals in their recreation activities, and number of outdoor recreation trips taken out of state.

The sample generated for this study suggests that urban racial/ethnic groups are complex and differ along a number of significant demographic dimensions. Their outdoor recreation preferences and behavior are diverse and complex. This diversity and complexity should inform the development of policies, programs, and plans for providing important outdoor recreation opportunities for urban populations; as well as future research. Care should be taken to avoid stereotyping particular groups or using simple explanations of their outdoor recreation behavior.

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